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WHITHAM, CURTIS & CHRISTOFFERSON, P.C. 11491 SUNSET HILLS ROAD SUITE 340 RESTON, VA 20190			MARTINEZ, CARLOS A	
			ART UNIT	PAPER NUMBER
			2853	

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/801,569

Applicant(s)

KITO, EIICHI

Examiner

Carlos A. Martinez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 03/17/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

If applicant desires to claim the benefit of a prior-filed application under 35 U.S.C. 119(e), a specific reference to the prior-filed application in compliance with 37 CFR 1.78(a) must be included in the first sentence(s) of the specification following the title or in an application data sheet. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications.

If the instant application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition

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must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 72 (pg. 16, line 1), 73 (pg. 16, line 5), and 13 (pg. 12, line 13; not shown in Fig. 1 or Fig. 2 as stated in the paragraph from lines 7-14). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended

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replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 301 (Fig. 1, Fig. 2, and Fig. 3), 158 (Fig. 8), 160 (Fig. 8), 162 (Fig. 8), 164 (Fig. 8), 166 (Fig. 8), 168 (Fig. 8), 170 (Fig. 8), 172 (Fig. 8), 174 (Fig. 8), 176 (Fig. 8), 178 (Fig. 8), 228 (Fig. 9), A (Fig. 9), B (Fig. 9), C (Fig. 9), 248 (Fig. 10), 250 (Fig. 10), 260 (Fig. 10), 262 (Fig. 10), 264 (Fig. 10), 25A (Fig. 17), 25B (Fig. 17), and 25C (Fig. 17). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

### *Specification*

4. The disclosure is objected to because of the following informalities: "5" (pg. 30, line 15) [note: typographical error; change to "305"], "turning on and off a power," (pg. 40, line 19) [suggestion: change be made to "turning on and off of a power"], and "means 136 shown in FIG. 14A" (pg. 55, line 10) [note: element 136 is not shown in FIG. 14A].

Appropriate correction is required.

5. The abstract of the disclosure is objected to because it includes improper language such as "means". Correction is required. See MPEP § 608.01(b).

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

7. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Objections***

8. Claims 2-24 are objected to because of the following informalities: “An image forming apparatus” is an improper reference to claim 1 [note: change to “The image forming apparatus”]. Appropriate correction is required.

9. Claim 8 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim as interpreted by the Office does not appear to provide further limitation to the parent claim with regards to the surface quality determining means.

***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 8, 9, 10, and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the claims 8, 9, 10, and 12 the meaning of “part” is unclear in relation to the respective “means”. For example, in claims 8 and 9, the meaning of the “surface quality determining part”

is unclear in its relation to the “surface quality determining means”. It is uncertain to the Office whether the “part” is being claimed to be equivalent and to mean the same as the “means” or whether the “part” is a subdivision of the stated “means”. Therefore, as the claim language is indefinite to the Office, for the purpose of examination these claims will be interpreted to have “part” be equivalent and to mean the same as the “means” (i.e. with respect of claims 8 and 9, the “surface quality determining part” will be considered the same as “surface quality determining means”).

***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Inoue (US6088546). Inoue discloses an image forming apparatus (refer to Fig. 3 and line 1 of the abstract) that comprises an image reading unit (refer to element 107 of Fig. 1) that reads information and surface quality from a subject copy and supplies image data and surface quality data (refer to lines 48-67 of column 3), an image processing unit (element 100 of Fig. 2) that records image preparing means and surface quality determining means (refer to lines 65-67 of column 3 and lines 1-12 of column 4), an image output unit (refer to II and III of Fig.3) that has image forming means and surface treatment means (refer to lines 8-34 of column 4).



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14. Claim 3 is rejected under 35 U.S.C. 102(b) as being anticipated by Inoue (US6088546).

Inoue discloses an image reading unit (refer to element 107 of Fig. 1) that has image reading means, which reads image information on the subject copy and supplies image data, and surface quality reading means, which reads the surface quality of the subject copy and supplies surface quality data (refer to lines 65-67 of column 3 and lines 1-12 of column 4).

15. Claim 4 is rejected under 35 U.S.C. 102(b) as being anticipated by Inoue (US6088546).

Inoue discloses a surface quality reading means, which has a surface quality detecting sensor (refer to lines 3-5 of the abstract, lines 65-67 of column 3 and lines 1-8 of column 4).

16. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Inoue (US6088546).

Inoue discloses a surface quality means for determining the surface quality of a subject copy and evaluating the surface quality data against the level of surface quality determined (refer to lines 1-7 of the abstract).

### ***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue

(US6088546) in view of Kimura (US5986741).

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- Inoue discloses an image forming apparatus with an image reading unit including a CCD sensor (element 106) capable of reading image information and photoreceiver (element 109) capable of reading surface quality from a subject copy.
- However, Inoue does not specifically mention the use of a CCD sensor and a CMOS sensor to perform such reading of image information and surface quality.
- Kimura acknowledges that it is common knowledge to use a MOS sensor and a CCD sensor for obtaining imaging and surface/spatial information (refer to lines 26-39 of column 1).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Inoue with an image reading unit that uses a CMOS sensor and a CCD sensor, as taught by Kimura, for the purpose of having the capabilities/benefits of CMOS sensors, where necessary, while saving cost of the apparatus by using CCD sensors wherever applicable.

19. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (US6088546), as applied to the claim 4 above, in view of Hirota (US6560351).

- Inoue discloses an image forming apparatus that has a light source for surface quality detection.
- However, Inoue does not specifically mention that a surface quality detecting sensor causes the light source to irradiate the subject copy with light, measure

regular reflection and luminous energy of diffusion from the subject copy, and detects the ratio between the regular reflection light and the diffused light.

- Hirota teaches that a surface quality detecting sensor causes the light source to irradiate the subject copy with light (refer to lines 23-28 of column 9), measure regular reflection and luminous energy of diffusion from the subject copy (refer to lines 28-36 of column 9), and detects the ratio between the regular reflection light and the diffused light (refer to lines 1-8 of column 10).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Inoue with a surface quality detecting sensor that causes the light source to irradiate the subject copy with light, measure regular reflection and luminous energy of diffusion from the subject copy, and detects the ratio between the regular reflection light and the diffused light – as taught by Kimura – for the purpose of providing a reasonable and common determination of surface quality.

Further, with respect to claim 6, it would have been obvious to one having skill in the art at the time of the invention was made to modify the apparatus of Inoue so that the light source for the surface quality detecting sensor emits infrared rays, as taught by Kimura (refer to element 110 of Fig. 2; lines 62-65 of column 4 and lines 37-39 of column 7), for the purpose of utilizing the spectrum that CCDs are sensitive towards.

20. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (US6088546), as applied to the claim 1 above, in view of Walker (US6425650).

- Inoue does not specifically mention a surface quality determining part having a surface quality pattern database.
- Walker teaches a surface quality determining part having a surface quality pattern database for determining the surface quality (refer to lines 1-9 of column 3).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Inoue with a surface quality determining part having a surface quality pattern database for determining the surface quality, as taught by Walker, for the purpose of providing a reference table of known values for quick determining of the surface quality.

21. Claims 10, 11, 12, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (US6088546), as applied to the claim 1 above, in view of Janosky (US6939002).

- Inoue discloses a recording material heating means that heats the surface of a sheet while in contact with the contact member (refer to lines 6-18 of column 8).
- However, Inoue does not specifically mention a sheet cooling means for cooling the sheet kept in contact with the contact member.
- Janosky teaches both a sheet heating means (refer to elements 22 of Fig. 1 and Fig. 2) and a sheet cooling means (refer to elements 38 of Fig. 2) when the sheet in contact with the contact member (refer to elements 26 of Fig. 2).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Inoue with a sheet heating means and a sheet cooling means when the sheet in contact with the

contact member, as taught by Janosky, for the purpose of image and surface quality control.

Further, with respect to claim 11, it would have been obvious to one having skill in the art at the time of the invention was made to modify the apparatus of Inoue so that the contact member has a predetermined surface quality (refer to lines 34-40 of column 3 of Janosky) and the image forming apparatus having surface quality control means for controlling – based on a surface quality determined data – at least one of a treatment condition of at least one of the sheet heating means and the sheet cooling means and the surface quality of the contact member (refer to lines 1-47 of column 5 of Janosky), as taught by Janosky, for the purpose of image and surface quality control.

Further, with respect to claim 12, it would have been obvious to one having skill in the art at the time of the invention was made to modify the apparatus of Inoue so that the treatment condition is at least one selected from: heating temperature of the sheet heating part, pressure of the sheet heating part, heating duration of the sheet heating part, duration of pressure application of the sheet heating means, cooling temperature of the sheet cooling part, and cooling duration of the sheet cooling means, as taught by Janosky (refer to lines 1-47 of column 5), for the purpose of image and surface quality control.

Further, with respect to claim 14, as taught by Inoue a surface treatment may be capable of controlling the surface gloss of the sheet so that the surface gloss is one of higher than, lower

than, and the same as the surface gloss of the subject copy (refer to lines 19-42 of column 13 and lines 30-33 of column 14).

Further, with respect to claim 16, it would have been obvious to one having skill in the art at the time of the invention was made to modify the apparatus of Inoue so that the contact member is an endless belt (refer to element 26 of Fig. 2), as taught by Janosky, for the purpose of incorporating a common conveyance means.

22. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (US6088546) in view of Janosky (US6939002), as applied to the claim 11 above, and further in view of Machida (US20040037583).

- Inoue in view of Janosky teaches an image forming apparatus where the surface quality of the contact member is selected from gloss and matte.
- However, Inoue in view of Janosky does not specifically mention that the surface quality of the contact member is selected from embossment.
- Machida teaches an image forming apparatus that provides for embossment based on embossed surface quality of an object (refer to paragraph [0107]).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Inoue in view of Janosky with embossment being surface quality formed from an image forming apparatus, as taught by Machida, for the purpose of further providing a true to form representation of an original subject copy.

23. Claims 15, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (US6088546) in view of Janosky (US6939002), as applied to the claim 10 above, and further in view of Wen (US6193361).

- Inoue in view of Janosky does not specifically mention that the surface quality can be controlled to form on a portion of the surface of a sheet a surface quality different from a surface quality of another portion of the surface of the sheet.
- However, Wen teaches that the surface quality can be controlled to form on a portion of the surface of a sheet a surface quality different from a surface quality of another portion of the surface of the sheet (refer to lines 45-67 of column 1 and lines 21-41 of column 2).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Inoue in view of Janosky to include the ability to have the surface quality controlled to form on a portion of the surface of a sheet a surface quality different from a surface quality of another portion of the surface of the sheet, as taught by Wen, for the purpose of providing a choice of texture according to user and/or data preference.

Further, with respect to claims 21 and 22, it would have been obvious to one having skill in the art at the time of the invention was made to modify the apparatus of Inoue in view of Janosky with Wen so that the contact member has a portion of different quality with respect to surface

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quality, as taught by Janosky (refer to lines 1-47 of column 5), for the purpose of providing variable quality.

24. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (US6088546) in view of Janosky (US6939002), as applied to the claim 16 above, and further in view of Tan (US6010791).

- Inoue in view of Janosky teaches an image forming apparatus with an endless belt and one heated roller pressed on the endless belt from outside.
- However, Inoue in view of Janosky does not specifically mention an image forming apparatus with an endless belt and a pair of heated roller arranged to press on the endless belt from inside and outside.
- Tan teaches an apparatus with an endless belt and a pair of heated roller arranged to press on the endless belt from inside and outside (refer to lines 34-46 of column 3).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Inoue in view of Janosky with an endless belt and a pair of heated roller arranged to press on the endless belt from inside and outside, as taught by Tan, for the purpose of providing further heating with respect a sheet heating means.



25. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (US6088546) in view of Janosky (US6939002), as applied to the claim 10 above, and further in view of Wu (US5764262).

- Inoue, in view of Janosky, teaches an image forming apparatus having sheet heating means and a sheet that has a thermoplastic layer applied to the substrate.
- However, Inoue (in view of Janosky) does not specifically mention the sheet heating means with a capability of heating the sheet to a temperature equal to or above the softening point of the thermoplastic resin in the thermoplastic resin layer nor does Inoue (in view of Janosky) specifically mention that the sheet utilized has a thermoplastic resin layer. It should be noted, though, that the apparatus of Inoue as modified by Janosky does provide a heating range encompassing the temperature range at which thermoplastic resin reaches its softening point – thus, sufficiently meeting a part of the claimed criteria/limitation.
- Nevertheless, Wu teaches a heating of a sheet to a temperature equal to or above the softening point of the thermoplastic resin in the thermoplastic resin layer and a sheet with a thermoplastic resin layer/coating (refer to lines 65-67 of column 1 and lines 1-20 of column 2).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Inoue, in view of Janosky, with a sheet heating means capable of heating a sheet to a temperature equal to or above the softening point of the thermoplastic resin in the

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thermoplastic resin layer and a sheet with a thermoplastic resin layer/coating, as taught by Wu, for the purpose of utilizing a layer that is suited for imaging.

26. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (US6088546) in view of Janosky (US6939002), as applied to the claim 10 above, and further in view of Wu (US5764262).

- Inoue, in view of Janosky, teaches an image forming apparatus having a sheet that has a thermoplastic layer applied to the substrate and sheet cooling means capable of cooling a sheet to a temperature below the softening point of the thermoplastic resin in the thermoplastic resin layer (refer to lines 23-35 of column 2).
- However, Inoue (in view of Janosky) does not specifically mention that the sheet utilized has a thermoplastic resin layer.
- Nevertheless, Wu teaches a sheet with a thermoplastic resin layer/coating (refer to lines 65-67 of column 1 and lines 1-20 of column 2).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Inoue, in view of Janosky, with a sheet having a thermoplastic resin layer/coating, as taught by Wu, for the purpose of utilizing a sheet with a layer that is suited for imaging.

27. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (US6088546) in view of Janosky (US6939002), as applied to the claim 10 above, and further in view of Ide (US20040086694).

- Inoue, in view of Janosky, teaches an image forming apparatus having a sheet that has a thermoplastic layer applied to the substrate.
- However, Inoue (in view of Janosky) does not mention that the sheet is comprised of a supporting base, a thermoplastic resin layer, and an image forming layer. It should be noted, though, that Inoue (in view of Janosky) teaches that the surface quality of the contact member is transferred to a thermoplastic layer – which as noted/acknowledged by the applicant may also be the image forming layer (refer to lines 3 and 4 of page 35) – thus, sufficiently meeting a part of the claimed criteria/limitation.
- Nevertheless, Ide teaches a sheet comprising of a supporting base, a thermoplastic resin layer, and an image forming layer (refer to paragraphs [0024], [0025], [0026], [0027], [0030], [0031], and [0032]; for further correlations refer to the pertinent art section of this office action and note US20030082473).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Inoue, in view of Janosky, with a sheet comprising of a supporting base, a thermoplastic resin layer, and an image forming layer, as taught by Ide, for the purpose of imaging/surface forming. *Further, it should be noted that this claim, with respect to this application, does/will not have/carry patentable weight since the invention claimed is of an image forming apparatus and not with respect to the material/environment that is utilized by the apparatus.*

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28. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (US6088546) in view of Janosky (US6939002) and Wen (US6193361), as applied to the claim 15 above, and further in view of Kaminsky (US20040081799).

- Inoue in view of Janosky and Wen does not specifically mention that the sheet heating means comprises a thermal head.
- However, Kaminsky teaches that a thermal head can be used as a sheet heating means (refer to paragraph [0082] of page 8).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Inoue in view of Janosky and Wen to include a thermal head can be used as a sheet heating means, as taught by Kaminsky, for the purpose of providing an alternate heating means and controlled heating.

29. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (US6088546), as applied to the claim 1 above, and further in view of Iida (US6900882) and applicant's acknowledged prior art (noted henceforth as A.A.P.A.).

- Inoue does not specifically mention that the sheet utilized by the image forming apparatus are selected from a thermosensitive recording sheet, inkjet sheet, electrophotographic sheet, heat developing sheet, silver halide photographic sheet, or silver halide digital photographic sheet. It should be noted, though, that Inoue teaches the forming of an image on a recording material, which would encompass the sheets listed by the applicant – thus, sufficiently meeting the claimed criteria.

- Nevertheless, Iida teaches the use of photographic paper and varieties of image recording material (refer to lines 37-44 of column 28). Further, applicant acknowledges the specifications that it is known that image forming can be accomplished by various methods such as thermosensitive recording, inkjet recording, electrophotography, heat developing sheet, and silver halide photography. Thus, these methods that are known to be used would anticipate and show to be obvious – to one having skill in the art – the use of the sheets mentioned by the applicant.
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the image forming apparatus of Inoue to include a sheet selected from a thermosensitive recording sheet, inkjet sheet, electrophotographic sheet, heat developing sheet, silver halide photographic sheet, or silver halide digital photographic sheet, as taught by Iida and A.A.P.A., for the purpose of providing utilizing known/available recording media. *Further, it should be noted that this claim, with respect to this application, does/will not have/carry patentable weight since the invention claimed is of an image forming apparatus and not with respect to the material/environment that is utilized by the apparatus.*

#### ***Pertinent Art References***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Appropriate prior art, which is nearest to the subject matter defined in the claims, is listed in the

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Notice of References Cited. These prior art references, such as Nakamura (US20030082473), Nana (US5552890), Walker (US6561643), Akita (US20030202214), Tullis (US6838687), Bolash (US6914684), Nishiyama (US5974233), Fujii (US20010035257), Mientus (US6106982), Edwards (US6180328), and Akita (US6853393) are included because they pertain to image forming or subject matter/elements pertinent to image forming similar to those defined in the claims of the applicant.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos A. Martinez whose telephone number is (571) 272-8349. The examiner can normally be reached on 8:30 am - 5:00 pm (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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